

Permit No. V-1641  
Issued: 01/05/99  
Expiration Date: 01/05/04

AIR POLLUTION CONTROL DISTRICT  
150 S. Ninth Street  
El Centro, CA 92243  
(760) 339 4606

TITLE V OPERATING PERMIT

Issued in Accordance with the Provisions of 40 CFR Part 70  
and Rule 900 of the Imperial County Air Pollution Control District

Company Name: Ogden Geothermal Operations, Inc.

Facility Name: Heber Geothermal Company and Heber Field Company.

SIC Code: 4911 (Electric Services)

Source Type: Geothermal Power Production  
Plant Location: 895 Pitzer Road, Heber, CA 92249

Mailing Address: 947 Dogwood Road, Heber, CA 92249

Responsible Official: Robert C. Sones

Plant Site Contact: Sergio Cabañas

Telephone: (760) 353 8200

Issued by:

Stephen L. Birdsall Date  
Air Pollution Control Officer

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#### Equipment Listing

##### I. Dual-Flash Geothermal Power Plant

###### 1. Turbine Generator

Manufacturer: Mitsubishi Heavy Industries

Equipment Description: 52 MW (gross) dual-entry double flow 5-stage turbine.

Maximum Design Process rate: 8.2x10<sup>6</sup> lbs/hr geothermal fluid.

Additional Equipment: Surface Condenser, High and low pressure tanks.

###### 2. Cooling Tower

Manufacturer: Custodis Ecodyne Catrell

Equipment Description: Five-cell counterflow design, PVC Filling, each cell equipped with a Fan, 200 HP motor.

Maximum Design Process Rate: 95,000 gallons/min.

##### II. Geothermal Wells

Equipment Description: Production, Injection, and Observation Wells.

Production Wells: HGU5, HGU6, HGU7, HGU8, HGU9, HGU10, HGU11, HGU12, HGU13, HGU14, HGU16.

Injection Wells: HGU50, HGU51, HGU52, HGU53, HGU54, HGU55, HGU56, HGU57, HGU71, HGU72.

Observation Wells: GTW1, GTW2, GTW3, GTW4, GTW5, GTW6A, Hulse 1, J.D. Jackson, Murdy 1, Nowlin 1, Thompson 1, Thompson 2.

#### Permit Conditions

##### I. General Permit Conditions

1. The permittee shall obtain an Authority to Construct permit prior to the modification or replacement of any equipment for which a Permit to Operate has been granted, and prior to the installation and operation of any equipment for which an Authority to Construct is required. Imperial County Air Pollution Control District (ICAPCD) Rule 201, Permits Required, adopted 10/15/79.

2. No air contaminant shall be released into the atmosphere which causes a public nuisance. ICAPCD Rule 117, Nuisances, adopted 02/21/72.

### 3. Compliance with Permit Conditions

- a. The permittee shall comply with all permit conditions;
- b. This permit does not convey property rights or exclusive privilege of any sort;
- c. Noncompliance with any permit conditions is ground for permit termination, revocation and reissuance, modification, enforcement action, or denial of permit renewal;
- d. The permittee shall not use the "need to hold or reduce a permitted activity in order to maintain compliance" as a defense for noncompliance with any permit conditions;
- e. A pending permit action or notification of an anticipated noncompliance does not stay any permit condition;
- f. Within a reasonable time period, Permittee shall furnish any information requested by the air pollution control officer (APCO) of ICAPCD, in writing, for the purpose of determining: 1) compliance with the permit, 2) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action. ICAPCD Rule 900.F.2.k, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

## II Emission Limits

### 1. Opacity

The permittee shall not release or discharge into the atmosphere from any single source or emission, any air contaminant as dark or darker as designated as No. 1 on the Ringlemann Chart (20% opacity) for a period or periods aggregating more than three (3) minutes in any hour. ICAPCD Rule 401, Opacity of Emissions, adopted 11/19/85.

### 2. Quantity of Emissions

The permittee shall not release or discharge air contaminants into the atmosphere from any single processing unit source or other contrivance, in excess of 0.2 grains per cubic foot of gas at standard conditions. ICAPCD Rule 403, Quantity of emissions, adopted 11/19/85.

### 3. Sulfur Compounds Emissions

The permittee shall not release into the atmosphere from any single source of emission, sulfur compounds, calculated as sulphur dioxide (SO<sub>2</sub>) in excess of 0.2 percent by volume, measured at the point of discharge. ICAPCD Rule 405, Sulfur Compounds, adopted 11/19/85.

### 4. Sulfur Contents of Fuels

The permittee shall not burn any fuel oil No. 2 at any stationary equipment having a sulfur content in excess of 0.5 percent by weight. ICAPCD Rule 126, Sulfur Contents of Fuels, adopted 11/09/82.

### 5. Geothermal Power Plant

The total facility wide hydrogen sulfide emissions shall not exceed 250 pounds per day. ICAPCD Rule 207, New Source Review, adopted 11/10/80, ATC Permit 1641, Condition 4.

## 6. Geothermal Wells

Hydrogen sulfide emissions shall not exceed 10 pounds per hour during three or more distinct hourly periods within any calendar year. ICAPCD Rule 207, New Source Review, adopted 11/10/80, ATC Permit 1500A, Condition B.

### III. Operational Limits

1. Geothermal power plant shall employ Best Available Control Technology (BACT) for hydrogen sulfide abatement if those emissions calculated from monitoring exceed 250 pounds per day from the entire plant operation. ICAPCD Rule 207, New Source Review, adopted 11/10/80, ATC Permit 1641, Condition 4.

2 The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners in Subpart B:

3 Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR Part 82.156.

a. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR Part 82.158.

b. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR Part 82.161. 40 CFR Part 82, Protection of Stratospheric Ozone.

### IV. Monitoring, Testing, and Analysis

1. The ICAPCD or any agency authorized by the ICAPCD shall be permitted to sample emissions from the source or sources. ICAPCD Rule 207, New Source Review, adopted 11/10/80, ATC Permit 1641, Condition 6.

2. The permittee shall conduct analysis of hydrogen sulfide content in the cooling tower noncondensable gas line and condensate line on a monthly basis, starting January 1999. The cooling tower shall be sampled at the port along the noncondensable gas flow line and the port along the condensate line from the hot well. During the source test the mass flow rate at both lines shall be recorded and submitted with the report. ICAPCD Rule 207, New Source Review, adopted 11/10/80, ATC Permit 1641, Conditions 1 and 3.

3. The permittee shall conduct analysis of benzene content in the cooling tower non-condensable gas line and benzene and ammonia content in the condensate line on a quarterly basis, starting in the first quarter of 1999. The cooling tower shall be sampled at the port along the noncondensable gas flow line and the port along the condensate line from the hot well. This source test may be conducted in conjunction with IV.2. During the source test the mass flow rate at both lines shall be recorded and submitted with the report. Rule 900.F.2.e, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

4. The permittee shall conduct analysis of hydrogen sulfide for each well on an annual basis. Each well shall be sampled at a point prior to delivery or emission to the atmosphere. Analysis for each well shall be conducted during the last quarter of the year, starting in 1999. ICAPCD Rule 207, New

Source Review, adopted 11/10/80, ATC Permit 1500A, Condition D.

5. Laboratory analysis shall use EPA approved methods. Test for emissions of hydrogen sulfide shall be conducted using U.S. EPA Method 11 or any other EPA Method approved by the District. Rule 900.F.2.e, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

6. The permittee shall conduct the following analyses. First source test shall be conducted during 1998 and every four years thereafter. All analysis' results shall be available at the facility for inspection.

a. Of turbine condenser condensate and cooling tower blowdown for: ammonia, arsenic, beryllium, cadmium, chromium, copper, hydrogen sulfide, lead, manganese, mercury, nickel, radon, selenium, and zinc.

b. Of the non-condensable gases vented for: hydrogen sulfide, ammonia, benzene, arsenic, mercury, radon, toluene, and xylene. AB2588, Toxic Hot Spots Program {State and District Only}.

#### V. Reporting Requirements

1. The permittee shall report any deviation from requirements in this Permit to Operate, other than deviations reported to the District pursuant to the District Upset/ Breakdown rule, to the APCO within 2 days of occurrence. The permittee shall use District approved forms to report any deviations. ICAPCD Rule 900.F.2.g, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

2. The permittee shall submit a written monitoring report to the ICAPCD every six months. The report shall be submitted before the end of July and January of each operating year, starting in July of 1999. The report shall identify any deviations from permit requirements, including those previously reported to the APCO. All reports of a deviation from permit requirements shall include the probable cause of the deviation and any preventive or corrective action taken. The permittee shall use District's approved forms for the report regarding deviation from permit requirements and shall also include a written statement from the responsible official which certifies the truth, accuracy, and completeness of the report. When no deviations have occurred for the quarter, such information shall be stated in the report. ICAPCD Rule 900.F.2.g, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

3. The permittee shall submit to the ICAPCD a quarterly emission report of hydrogen sulfide and benzene based on analyses conducted pursuant to the requirements of Sections IV.2 and IV.3. The report shall be submitted within the first month of the following operating quarter, starting in the first quarter of 1999. Hydrogen sulfide and benzene emissions shall be reported in lb/hr. ICAPCD Rule 900.F.2.e, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

4. The permittee shall demonstrate compliance with condition II.2, Quantity of Emissions, based on analysis conducted pursuant to condition IV.2 and IV.3. A report shall be submitted to the ICAPCD quarterly. The report shall be submitted within the first month of the following operating quarter, starting in the first quarter of 1999. ICAPCD Rule 900.F.2.g, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the

Federal CAA Amendments of 1990, adopted 12/14/93.

5. The permittee shall demonstrate compliance with condition II.3, Sulfur Compounds Emissions, based on analysis conducted pursuant to condition IV.2. A report shall be submitted to the ICAPCD quarterly. The report shall be submitted within the first month of the following operating quarter, starting in the first quarter of 1999. ICAPCD Rule 900.F.2.g, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

6. The permittee shall submit to the ICAPCD an annual report containing the analysis conducted pursuant to the requirements of section IV.4. The report shall include the date, time, and the total hours of venting to the atmosphere of each production well. The facility shall demonstrate compliance with condition II.6 based on the most recent mass flow rate determination, conducted by tracer dilution techniques. This report shall be submitted to the ICAPCD by the end of February of the following operating year. ICAPCD Rule 207, New Source Review, adopted 11/10/80, ATC Permit 1500A, Condition E.2, and Rule 900.F.2.g, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

7. The permittee shall submit to the ICAPCD an annual report by the end of February of the following operating year. This report shall include the following items:

- a. Types and quantities of cooling tower additives;
  - b. Net electrical megawatt-hour sold for the report year;
  - c. For each standby stationary i.c. engine used: the total hours of operation for each engine, and the total fuel used by each engine.
  - d. The status of all active wells associated with this facility used for production or injection during the report year. For each well include the total days of rig activity (work over, clean out or drilling). ICAPCD Rule 207, New Source Review, adopted 11/10/80, ATC Permit 1500A, Condition E.2, and Rule 900.F.2.g, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.
8. The permittee shall submit to the ICAPCD a report containing all the items listed below. First report shall be submitted at the end of February 1999 and every four years thereafter.

- a. Analyses conducted pursuant to the requirements of Section IV.6 above;
- b. Based on analyses conducted in Section IV.6 and the emissions derived from the analyses, an emission inventory for the facility. AB2588, Toxic Hot Spots Program {State and District Only}.

9. The permittee shall submit a written report to the ICAPCO within ten calendar days after a breakdown occurrence has been corrected. This report shall include: a) a statement that the occurrence has been corrected, together with the date of correction and proof of compliance; b) the reason(s) or cause(s) of the occurrence; c) a description of the corrective measures undertaken; and d) the type of emission and estimated quantity of the emissions caused by the occurrence. ICAPCD Rule 111.D, Equipment Breakdown, adopted 12/11/79.

10. The sulfur content of the fuel oil No. 2 shall be tested in accordance

with the most current American Society for Testing and Materials (ASTM) methods. The fuel oil No. 2 sulfur content shall be verified by one of the following methods:

- a. A representative sample of each batch of the fuel oil No. 2 received shall be analyzed for its sulfur content; or
- b. A certification of analysis on the sulfur content shall be obtained for the fuel oil No. 2 delivered by the supplier. ICAPCD Rule 900.F.2.e, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

#### VI. Record keeping Requirements

1. Records of all monitoring and support information shall include the following: 1) date, place, and time of measurement or maintenance activity; 2) operating conditions at the time of measurement or maintenance activity; 3) date, place, name or company or entity that performed the measurement or maintenance activity and the methods used; and 4) results of the measurement or maintenance. ICAPCD Rule 900.F.2.f, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

2. Records of all required monitoring data and support information shall be retained for at least five years from date of initial entry. ICAPCD Rule 900.F.2.f, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

#### VII. Emergency Provisions

1. The permittee shall notify the ICAPCD of any upset conditions, breakdown or schedule maintenance which cause a violation of emission limitations prescribed by District Rules and Regulations, or by State law. The District shall be notified as soon as reasonably possible but not later than two (2) hours after its detection. The completion of corrective measures or the shut down of emitting equipment is required within 24 hours of occurrence of a breakdown condition. ICAPCD Rule 111.A, Equipment Breakdown, adopted 12/11/79.

2. If the breakdown condition will either require more than 24-hours to correct or persist longer than the end of the production run (except for continuous monitoring equipment, for which the period shall be ninety-six (96) hours), the owner or operator may, in lieu of shutdown, request the Air Pollution Control Officer to commence the emergency variance procedure. ICAPCD Rule 517, Emergency Variance, adopted 10/11/79 {State and District only}.

3. Within two weeks of an emergency event, the operator shall submit to the District a properly signed, contemporaneous log or other relevant evidence which demonstrates that: a) an emergency occurred; b) Permittee can identify the cause(s) of the emergency; c) the facility was being properly operated at the time of the emergency; d) all steps were taken to minimize the emissions resulting from the emergency; and e) within two working days of the emergency event, the permittee provided the District with a description of the emergency and any mitigation or corrective actions taken. ICAPCD Rule 900.F.2.1, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

4. In any enforcement proceeding, the permittee has the burden of proof for

establishing that an emergency occurred. ICAPCD Rule 900.F.2.1, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

#### VIII. Compliance

##### 1. Compliance Certification

The permittee shall submit compliance certification reports to the U.S.EPA, Director, Air Division, 75 Hawthorne Street, AIR-3, San Francisco, CA 94105 and the APCO every 12 months. These reports shall be submitted by the end of February of each preceding operating year. The reports shall include the following requirements: a) identify the basis for each permit term or condition and a means of monitoring compliance with the term or condition; b) the compliance status and method(s) used to determine compliance for the current time period and over the entire reporting period; and c) any additional inspection, monitoring, or entry requirement that may be promulgated pursuant to sections 114(a) and 504(b) of the CAA. The permittee shall use District approved forms for the compliance certification and shall also include a written statement from the responsible official which certifies the truth, accuracy, and completeness of the report. ICAPCD Rule 900.F.2.n, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

##### 2. Risk Management Plan

This stationary source, as defined in 40 CFR Part 68.3, is subject to Part 68, the Accidental Release Prevention regulations. This stationary source shall submit a Risk Management Plan (RMP) by the date specified in Part 68.10. This stationary source shall certify compliance with the requirements of part 68 as part of the annual compliance certification as required by 40 CFR Part 70 or 71. 40 CFR Part 68.3, Risk Management Plan.

#### IX. Right of Entry

1. The Regional Administrator of United States Environmental Protection Agency (U.S. EPA), the Executive Officer of the California Air Resources Board, the APCO, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises:

- a. To inspect the stationary source, including equipment, work practices, operations, and emissions-related activity; and
- b. To inspect and duplicate records required by this Permit to Operate; and
- c. To sample substances or monitor emissions from the source or other parameters to assure compliance with the permit or applicable requirements. Monitoring of emissions can include source testing. ICAPCD Rule 900.F.2.j, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

#### X. Severability

1. The provisions of this Permit to Operate are severable and if any provisions of this Permit to Operate are held invalid, the remainder of this Permit to Operate shall not be affected thereby. ICAPCD Rule 900.F.2.m, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.



## XI Permit Life

1. This Permit to Operate shall become invalid five years from the date of issuance unless a timely and complete renewal application is submitted to the District. The permittee shall apply for renewal of this permit no earlier than 18 months before the date of expiration. Upon submittal of a timely and complete renewal application, this permit to operate shall remain in effect until the APCO issues or deny the renewal application. ICAPCD Rule 900F.2.o, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.

## XII. Payment of Fees

1. The permittee shall remit the Title V annual fee to the District in a timely basis. Failure to remit fees on a timely basis shall result in forfeiture of this Permit to Operate. Operation without a Permit to Operate subjects the source to potential enforcement action by the District and the U.S. EPA pursuant to section 502(a) of the Clean Air Act. ICAPCD Rule 900F.2.p, Procedures for Issuing Permits to Operate for Sources Subject to Title V of the Federal CAA Amendments of 1990, adopted 12/14/93.